

Comments by Mike Checkett, Arkansas Game and Fish Commission

Decline in Arkansas Duck Hunting?

For the second year in a row many of us in Arkansas and other parts of the South have experienced a generally poor and frustrating duck season, especially during the second segment, from December to present. Late October and early November reports from Arkansas hunters of "We have ducks everywhere!" have quickly been replaced with: "Where are the ducks?" To help answer questions, I would like to provide some thoughts as well as facts about why duck numbers were lower than normal in Arkansas and elsewhere in the South. These opinions are based on data from scientific surveys and reports from waterfowl biologists up and down the flyway.

The main factors that were likely responsible for this years season are not new, low duck numbers and weather. Because of continued drought, we have witnessed two consecutive years of poor production in the heart of the breeding grounds in prairie Canada and the northern U.S., where many of Arkansas ducks get their start. This produced a diminished fall flight of mostly adult ducks. These adult ducks are "hunt smart" and are quick to find protected habitats where they remain until forced by weather or disturbance to move. In addition, there just were not as many ducks flying south this year as in the last 5 years. Secondly, mild weather conditions and little snow cover throughout the Midwest from early December to early January compounded the problem. Daytime high temperatures extending as far north as the Dakotas were often above 50 degrees. Many ducks, especially mallards, will stay as far north as possible before persistent cold weather, accompanied by ice and snow, covers their food supply and pushes them south. This year, a consistent pattern of very little snow cover and mild temperatures across the upper Midwest also has once again allowed many ducks to remain there for the winter. Reports from the Midwest indicate that there were substantial numbers of mallards and other species of waterfowl in Oklahoma, Kansas, Nebraska, South Dakota, Iowa, Missouri, Ohio, and Indiana in late December.

Beyond the aforementioned, many other changes, some of which are landscape issues have occurred over the last ten years. A summary of these is listed below (although not necessarily in order of importance all are likely having some direct effect on waterfowl numbers and hunter opportunity).

1. Increase in Pressure - 39,000 to 95,000 hunters,
 - a. increase in commercial operations - guide licenses
 - b. increase in non-residents as well as residents
 - c. long seasons 6th year of 60 day seasons - no breaks
 - d. increase in hunter effort
 - e. not enough refuge?

All of the above listed changes have increased pressure on the waterfowl resource and undoubtedly effected migration chronology, movement and distribution both within Arkansas and the Flyways. Hunting success represented by harvest has increased, however, individual hunter success has declined. More folks are sharing a recently shrinking pie.

2. Declining duck populations over the last 3 years
 - a. mallard populations (breeders and fall flight)
 - b. other duck species

In the traditional survey area (strata 1-18, 20-50, and 75-77 see appendix), total duck abundance was 31.2 ± 0.6 million birds. That number represents a decline of 14% from last year's population of 36.1 million birds, and is 6% below the long-term (1955-2001) average. Mallard abundance was 7.5 ± 0.2 million, similar to the 2001 estimate of 7.9 ± 0.2 million, and essentially identical to the long-term average. Blue-winged teal abundance was 4.2 ± 0.2 million which was 27% below last year's estimate of 5.8 ± 0.3 , but similar to the long-term average. Gadwall (2.2 ± 0.1 million, -17%), shovelers (2.3 ± 0.1 , -30%), and pintails (1.8 ± 0.1 million, -46%) were below 2001 estimates. Wigeon (2.3 ± 0.1 million), green-winged teal (2.3 ± 0.1 million), redheads (0.6 ± 0.1 million), canvasbacks (0.5 ± 0.1 million), and scaup (3.5 ± 0.2 million) were unchanged from 2001 estimates. Gadwall (+37%), green-winged teal (+28%), and

shovelers (+10%) all remain above their long-term averages, whereas wigeon (-12%), pintail (-58%), canvasback (-14%), and scaup numbers (-34%) were below long-term averages. Northern pintails and scaup were the lowest and second lowest counts on record, respectively. The redhead estimate was similar to the long-term average.

The Fall Flight index for total ducks was discontinued in 2000. The fall-flight estimate for mallards has continued and an estimated 8.9 million birds is predicted to be lower than the 10.5 estimate in 2001 and the 2000 estimate of 11.2 million birds. That represents a 20% decline in mallard numbers since 2000. Certainly such a decrease would be easily discernable when in the field.

3. High proportion of adults - decline in reproduction over the last 3 years.

- a. Poor habitat conditions on the breeding ground
- b. wing bee data - indication of poor reproduction
- c. July brood surveys - POOR REPRODUCTION
- d. Adult ducks are difficult to hunt.

Below-average winter and spring precipitation in the prairies and parklands were reflected in pond counts much lower than in 2001. Total May ponds (U.S. prairies and prairie parkland Canada combined) of 2.7 ± 0.1 million were the second lowest since 1974, when this estimate was first recorded, 41% below last year's estimate of 4.6 ± 0.1 million, and 45% below the long-term average. Results of the July Pond survey indicated that the number of ponds in Prairie Canada and the north-central U. S. combined was 1.8 ± 0.1 million ponds. This was 36% below last year's estimate of 2.9 ± 0.1 million ponds and 33% below the long-term average. July ponds in the U.S. were estimated at 19% below last year's estimate but similar to the long-term average.

The number of broods in the north-central U.S. and Prairie Canada combined was 352,600, 35% lower than last year's estimate, and 25% below the long-term average. The number of broods in Prairie Canada and the north-central U.S. were 54% and 37% below last year's estimates, respectively. Brood indices in Prairie Canada were 69% below the long-term average. Band recovery analysis indicates that 64% of all banded mallards taken in Arkansas are from Canada. 39% of all mallards harvested in Arkansas come from Saskatchewan, one of the hardest hit Canadian Provinces by the current drought. In 2002 the May pond count for southern Saskatchewan was the second lowest since the survey began. July ponds were 58% below the long-term average. Brood indices were 63% below last year's and 71% below the long-term average.

Wing bee data will not be available until February for the 2002-03 season. Adult to immature age ratios declined from 1.15 Imm/Ad in 1997 to 0.69 in 2000 rebounding slightly in 2001 to 1.33 Imm/Ad. Ratios for the 2002-03 season are expected to be below average.

4. Increased harvest -

- a. Are we over shooting stocks in Arkansas?
- b. Increased harvest of mallards by other states?
- c. Long seasons and liberal bag limits?

Mallard harvest in Arkansas has increased during liberal seasons to an average of 871,100 for the 1996-2000 period, representing a 40% increase from the 1976-80 average (523,160). Average total duck harvest for the 1996-2000 period was 1,450,220 representing a 50% increase from the 1976-80 average (729,180).

5. Warm weather patterns -

- a. above average temps
- b. decrease in snowfall

Above average temperatures and rainfall have influenced migration chronology as well as movement within the state. Nationally, 2001 was the 5th warmest year on record. In Arkansas, December 2001 was the wettest since 1987 and the warmest since 1984.

In 2002, December temperatures were near normal and rainfall was above normal for. The average temperature for December was 44.5 degrees, 1.1 degrees above normal. The average high temperature during December was 52.4 degrees, 0.5 degrees above normal. The average low temperature was 36.5 degrees, 1.6 degrees above normal. Temperatures averaged above normal on 15 days. Rainfall

continued to be abundant and precipitation during December totaled 8.17 inches, 3.64 inches above normal. December 2002 was the 8th wettest December on record since 1879.

6. Increases in habitat acreage

- a. in Arkansas
- b. within MF and CF
- c. No-till farming in the northern states and Canada
- d. Warm water reservoirs

In Arkansas, winter flooding of agricultural fields has increased at a substantial rate over the last few years. Quantify this is difficult but probably mirrors the growth in hunter numbers. No-till farming practices have changed the landscape in northern climes. Nationwide, there are literally thousands if not millions of acres of no-till fields leaving waste corn, milo, barley and other grains scattered across the landscape. Only snowfall will make this food source unavailable to field feeding mallards. Construction of warm water hydroelectric reservoirs as well as recent warm winters has provided open water late into the winter.

7. Decline in quality of rice/agricultural habitat

- a. early maturing and harvest - increased germination of waste grain
- b. improved mechanized equipment - less waste
- c. herbicides - few/chemicals - fewer weeds and inverts

Results from a study currently being conducted by Mississippi State in cooperation with the Arkansas Game and Fish Commission, the USFWS and Ducks Unlimited indicate that mean density of waste-rice in fields in the Mississippi Alluvial Valley from post-harvest through early winter have declined substantially. Mean Rice availability declines from 273 kg/ha to 75 kg/ha from harvest in September to December, respectively (a 72% decline from post-harvest to early winter). The threshold for optimal foraging and bird use is believed to be at 50 kg/ha. In plain English, there is little food left by the time mallards arrive.

8. Decline in natural habitat quality

- a. bottomland hardwoods - stressed? poor flooding regimes? no control?
- b. Moist-soil units - more aggressive management?

Flooding regimes often dictated by the COE reservoirs in states above Arkansas have stressed many bottomland hardwood areas. Poor mast production is often associated with stress, which has in turn decreased their value to wintering waterfowl.

9. Dispersal of birds within Arkansas

- a. decline in use of traditional/historical areas
- b. agricultural vs. natural habitat
- c. changes in percentages of habitat
- d. large increases in flooded acreage on the landscape

An abundance of low quality habitat (decline mean rice availability) may have changed bird dispersal and movement within Arkansas. Areas with high quality habitat are often rewarded with large concentrations of birds, however fewer large concentrations of birds are being seen during waterfowl surveys.

10. Changes in habitat use?

- a. Timber
- b. Agricultural fields
- c. Managed water

The substantial increase in over winter agricultural flooding may be influencing bird use of other habitats as well as duck distribution within the state. Wildlife use of wetlands largely is determined by the type, quality, and distribution of foods and cover. Therefore, the vegetation within wetlands is extremely important because plant composition determines (1) type, quality, and nutritive quality of plant foods available, including seeds, tubers, and browse; (2) distribution density, and structure of cover; and (3) quality and type of substrate for invertebrates and consequently duck use. Time budgets and radio telemetry studies need to be conducted to confirm this?

11. Changes in migration chronology - Short-stopping?

- a. Caused by current weather patterns?

b. Caused by landscape habitat changes?

There is no arguing that habitat improvements both intentional (i.e. wetland restoration) and unintentional (i.e. no-till farming) have occurred across the flyway over recent years, however, these improvements barely offset the continued loss of wetland habitat that continues today and single handedly cannot be blamed for short stopping waterfowl. Waterfowl surveys conducted last year indicated that large numbers of mallards stayed north due to the mild winter conditions. Radio telemetry studies need to be conducted to confirm this.

12. Individual success has declined while overall success has increased or remained stable.

- a. Average seasonal duck bag per active adult hunter has declined.
- b. Average days hunted per active adult hunter has increased.
- c. Average daily duck bag has remained constant.
- d. Total state harvest has generally -increased.


Average seasonal duck bag per adult hunter increased from an average of 13.38 in 1976-80 to 23.13 for the 1996-2000 period, however, declined to 14.44 in 2001-02. This year's estimate will likely be similar to 2001-02. Arkansas has been number one in this category for all years surveyed (MF average 11.69 in 1996-2000). Average days hunted per active adult have increased from 10.38 in 1976-80 to 14.52 during the 1996-2000 period. Average Daily duck bag per active adult hunter in Arkansas has remained constant at 1.29 in 1976-80 and 1.59 in 1996-2000. In short, Arkansas hunters still hunt more days and harvest more ducks/per season/per hunter than any other state in the Mississippi Flyway.

Each of these environmental factors on its own would not impact Arkansas duck hunting to a large degree. The fact that many have occurred in the same year and for successive years has created a worst-case scenario, but it must be realized that a combination of factors led to the lackluster hunting season in recent years. Under our current conditions (mild winters and diminished duck populations) it is normal to have significantly fewer ducks, especially mallards, here. Weather and habitat conditions (abundant ice or snow cover) are always the key factors influencing the north/south distribution of mallards and other ducks. The results of this year's mid-winter survey are being tabulated and preliminary reports support what I have stated (fair numbers of ducks north of Arkansas as well as diminished numbers abroad).

It is difficult to accept that we can do nothing to prevent duck populations from declining during periods of drought. We must recognize that drought is necessary to maintain the health of prairie ecosystems. While in drought, the prairies are, in effect recharging for the amazing recovery that we have seen every time the water returned during the last century. Despite the predictions of doom that often arise with each population downturn, most of our duck populations are in good shape relative to the available habitat. The wet decade of the 1990's, just a few years ago, stands as a reminder of how productive most species can be, and how rapidly their populations can bounce back when all the habitat components are in place. It is not reasonable for hunters to expect continuous growth in the harvest of the renewable, but finite, duck population. Population levels will always mirror breeding habitat conditions. We need to resist the urge to affix blame or look for a silver bullet, and channel our passion and energies into positive attitudes and actions. Blaming fingers pointing in every direction waste too much energy assigning fault.

Finally as agreed by virtually every waterfowl biologist since the early 1900s, habitat conservation is the key to helping populations through the inevitable droughts. Waterfowl have repeatedly shown that they can take care of themselves within the limits of the available habitat. To sustain and improve the long-term capabilities of those habitats we must continue to aggressively protect and restore high-quality habitats both here in Arkansas and abroad. The passion that we all share for waterfowling can motivate us to accomplish great things. As conservationists we must continue to focus our efforts on what will provide the greatest benefit, now and for the future. In the case of Arkansas waterfowl, habitat protection in southern Saskatchewan as well as the U.S. Prairies. As hunters we must exercise patience, enduring poor seasons to experience great seasons.

We appreciate the Arkansas Wildlife Federations efforts toward our great states resources and your time today.



Good Hunting,

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